Remarks/Arguments:

Claims 1, 9 and 13 have been amended. No new material is introduced herein. Claims 1-14 are pending.

Support for the amendments to claims 1, 9, and 13 can be found, for example, in paragraphs [0021] and [0034] (read-only memory); paragraph [0046] (compatibility determination; paragraphs [0034] and [0045] (verification and restoring original software); and Figs. 1-3.

The specification was objected to as failing to provide antecedent basis for the claimed subject matter. In particular, it is asserted that the feature of a flash memory, cited in claim 6, is not disclosed in the subject disclosure. Applicant respectfully disagrees. Paragraphs [0006] and [0015], for example, in the subject disclosure describe that the smart card includes personal computer memory card international association (PCMCIA) Type I-III cards and Japan electronic industry development association (JEIDA) cards. One of skill in the art would be aware that PCMCIA Type I-III memory cards may include flash memory. (See for example, the enclosed Wikipidia article entitled "PC card"). Accordingly, applicant respectfully requests that the objection to the specification be withdrawn.

Claim 1 was rejected under 35 U.S.C. §102(e) as being anticipated by Prus et al. (U.S. Pat. App. No. 2005/0144651). This ground for rejection is overcome by the amendments to claim 1. In particular, Prus et al. do not disclose or suggest:

> ...a method of upgrading operational software in a host device having a smart card interface, the host device including a read-only memory having original software for the host device...
>
> ...determining if the upgraded software is compatible with the host device by comparing attributes of the upgraded software to that of the host device, the host device performing the determination of compatibility before the upgraded software is transferred from the smart card...
>
> ...if the upgraded software is determined to be compatible, transferring the upgraded software from the smart card to a memory of the host device to perform the code upgrade...

> ...verifying the software transferred to the memory using data stored on the smart card and if the transferred software can not be verified, restoring the original software from the read-only memory...

as required by claim 1 (emphasis added).

Prus et al. disclose, in Fig. 1, a settop receiver 150 that is connected to head end 101 which downloads software to settop receiver 150 (paragraph [0018]). Settop receiver 150 includes a bootloader 300 capable of detecting the presence of a smart card (paragraph [0033]). The bootloader 300 also checks for existence of operating system/control program software and downloads an operating system/control program from head end 101 if it detects a corrupt version in the host memory (paragraph [0026] and Abstract). Prus et al. do not disclose or suggest a method of upgrading operational software including "transferring the upgraded software from the smart card to a memory of the host device." Prus et al., instead, downloads an operating system/control program from a head end. Furthermore, Prus et al. do not 1) determine a compatibility of the upgraded software with the host device, or 2) transfer the upgraded software if the upgraded software is determined to be compatible, or 3) verify the software transferred to the memory or 4) restore the original software from the read-only memory in the host device if the transferred software can not be verified, as required by applicant's amended claim 1. Thus, Prus et al. do not include all of the features of claim 1. Because Prus et al. do not disclose or suggest all of the features of claim 1, claim 1 is not subject to rejection under 35 U.S.C. §102(e) as being anticipated by Prus et al.

Claims 5-6 and 8 were rejected under 35 U.S.C. §102(b) as being anticipated by Diehl et al. (U.S. Pat. No. 5,835,864). This ground for rejection is respectfully traversed. In particular, Diehl et al. do not disclose nor suggest:

> ...a smart card for providing a code upgrade to an open cable compliant host device, comprising a memory for holding upgraded software for delivery to the host device, the memory also including a card information structure (CIS) for identifying the smart card as a code upgrade card...

as required by applicant's claim 5.

Diehl et al. discloses a dedicated smart card (see Col. 2, lines 3-6) that contains a CPU, a memory and an interface that functions as a reset, presents an application identifier and transmits data in a table that is used for customization (see Col. 2, lines 35-48). According to Diehl et al., the smart card may include channel allocation tables for different sites belonging to a program provider (Col. 2, line 66- Col. 3, line 1). Diehl et al. do not disclose or suggest that the smart card includes "a memory for holding upgraded software for delivery to the host device" or that the memory includes "a card information structure (CIS) for identifying the smart card as a code upgrade card," as required by applicant's claim 5. Although Diehl et al. disclose that the smart card includes a memory, the Diehl patent is silent regarding the memory holding upgraded software or the memory including a CIS for identifying the smart card as a code upgrade card. Thus, Diehl et al. do not include all of the features of claim 5.

Because Diehl et al. do not disclose all of the features of claim 5, claim 5 is not subject to rejection under 35 U.S.C. §102(b) as being anticipated by Diehl et al. Because claims 6 and 8 include all of the limitations of claim 5 from which they depend, claims 6 and 8 are not subject to rejection under 35 U.S.C. §102(b) as being anticipated by Diehl et al.

Claim 13 was rejected under 35 U.S.C. §102(b) as being anticipated by McClellan et al. (U.S. Pat. No. 5,619,250). This ground for rejection is overcome by the amendments to claim 13. In particular, McClellan et al. do not disclose or suggest:

> ...a method of providing a software upgrade to an open cable compliant host device... the host device including a read-only memory having original software for the host device...
>
> ...determining if the software upgrade is compatible with the host device by comparing attributes of the software upgrade to that of the host device, the host device performing the determination of compatibility before the software upgrade is read from the smart card...
>
> ...if the software upgrade is determined to be compatible, reading the software upgrade of the smart card and writing the software upgrade to a memory of the compliant host device...
>
> ...verifying the software written to the memory using data stored on the smart card and if the written software can not be verified, restoring the original software from the read-only memory...

as required by amended claim 13 (emphasis added).

McClellan et al. disclose, in Fig. 2, a decoding system 40 including a PCMCIA interface 52 which accepts PCMCIA cards including system upgrades in the form of upgrade modules (Col. 7, lines 58-65). A new module is either placed in RAM 14 or FLASH memory 50 of the decoding system 40. If the upgrade is placed in FLASH memory, the upgrade is extendable beyond the current session (Col. 8, lines 12-23). McClellan et al. discloses that the original operating system software is stored in the ROM (Col. 6, lines 40-41). McClellan et al. do not disclose or suggest "verifying the software written to the memory using data stored on the smart card" or "if the written software can not be verified, restoring the original software from the read-only memory," as required by Applicant's claim 13. Although McClellan et al. disclose performing a validity check on a module to in order to avoid misidentifying random data (Col. 9, lines 17-33), McClellan et al. do not disclose verifying software that is written to memory using data stored on the smart card. McClellan et al. further do not disclose restoring the original software from the read-only memory if the written software can not be verified. McClellan et al., instead, disclose including multiple versions of an update stored in FLASH memory (Col. 8, line 51-66). Thus, McClellan et al. do not include all of the features of claim 13. Because McClellan et al. do not disclose all of the features of claim 13, claim 13 is not subject to rejection under 35 U.S.C. §102(b) as being anticipated by McClellan et al.

Claims 2 and 9-12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Prus et al. in view of OpenCable Specification. Claim 2, however, includes all of the features of claim 1 from which it depends and is patentable over Prus et al. for at least the same reasons as claim 1.

The OpenCable Specification discloses a specification for an open cable host and point-of-deployment (POD) interface. The OpenCable Specification does not provide the deficiencies of Prus et al. because it does not disclose or suggest 1) that the host device includes a read-only memory having original software, 2) determining if upgraded software is compatible with the host device before the upgraded software is transferred from the smart card, 3) verifying the software transferred to the memory and 4) restoring the original software from the read-only memory if the transferred software can not be verified, as required by claim 1.

The cited art, taken singularly or in combination do not disclose or suggest all of the features of claim 1. Accordingly, claim 2, which includes all of the features of claim 1 from

which it depends is also not subject to rejection under 35 U.S.C. §103(a) as being unpatentable over Prus et al. in view of OpenCable Specification.

The rejection of claim 9 is overcome by the amendments to claim 9. Neither Prus et al. nor the OpenCable Specification disclose or suggest:

> ...a read-only memory having original program data for the set top box...
>
> ...a bootstrap loader which is configured to control the processor to transfer program data from the POD interface to the memory to overwrite the operational software with upgraded software...
>
> ...determining means which determines whether the upgraded software is compatible by comparing attributes of the upgraded software to that of the host device and which verifies the program data transferred by the bootstrap loader using data stored on the smart card and, if the transferred program data can not be verified, restoring the original program data from the read-only memory...
>
> ...the set top box determines the compatibility before the upgraded software is transferred from the POD interface to the memory...

as required by amended claim 9 (emphasis added).

As described above, Prus et al. do not disclose or suggest 1) a read-only memory having original program data, 2) a bootstrap loader which is configured to control the processor to transfer program data from the POD interface to the memory to overwrite the operational software with upgraded software, 3) determining means which determines whether the upgraded software is compatible by comparing attributes of the upgraded software to that of the host device, 4) verifying the program data transferred by the bootstrap loader using data stored on the smart card and 4) restoring the original program data from the read-only memory if the transferred program data can not be verified, as required by amended claim 9. The OpenCable Specification is described above and does not provide the material missing from Prus et al. Accordingly, neither Prus et al. nor the OpenCable Specification include the features of amended claim 9.

Because Prus et al. and the OpenCable Specification, either alone or in combination, do not disclose all of the features of claim 9, claim 9 is not subject to rejection under 35 U.S.C. §103(a) as being unpatentable over Prus et al. in view of OpenCable Specification. Because

claim 10-12 include all of the limitations of claim 9 from which they depend, claims 10-12 are not subject to rejection under 35 U.S.C. §103(a) as being unpatentable over Prus et al. in view of OpenCable Specification.

Claim 3 was rejected under 35 U.S.C. §103(a) as being unpatentable over Prus et al. in view of the ATSC standard. Claim 3, however, includes all of the features of claim 1 from which it depends and is patentable over Prus et al. for at least the same reasons as claim 1.

The ATSC standard discloses a standard for a conditional access system for terrestrial broadcasting. The ATSC standard does not provide the deficiencies of Prus et al. because it does not disclose or suggest 1) that the host device includes a read-only memory having original software, 2) determining if the upgraded software is compatible with the host device before the upgraded software is transferred from the smart card, 3) verifying the software transferred to the memory and 4) restoring the original software from the read-only memory if the transferred software can not be verified, as required by claim 1.

The cited art taken singularly or in combination do not disclose or suggest the features of claim 1. Accordingly, claim 3, which includes all of the limitations of claim 1 from which it depends is also not subject to rejection under 35 U.S.C. §103(a) as being unpatentable over Prus et al. in view of the ATSC standard.

Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Prus et al. in view of OpenCable Specification and further in view of Kidder et al. (U.S. Pat. App. No. 2004/0031030).

Prus et al. and the OpenCable Specification are described above. Kidder et al. disclose an apparatus for facilitating hot upgrades of software components within a telecommunications network device using signatures generated by a signature generation program. Kidder et al. do not provide the deficiencies of Prus et al. because it does not disclose or suggest 1) that the host device includes a read-only memory having original software, 2) determining a if the upgraded software is compatible with the host device before the upgraded software is transferred from the smart card, 3) verifying the software transferred to the memory and 4) restoring the original software from the read-only memory if the transferred software can not be verified, as required by claim 1.

The cited art taken singularly or in combination do not disclose or suggest the features of claim 1. Accordingly, claim 4, which includes all of the limitations of claim 1 from which it depends is also not subject to rejection under 35 U.S.C. §103(a) as being unpatentable over Prus et al. in view of OpenCable Specification and further in view of Kidder et al.

Claim 7 was rejected under 35 U.S.C. §103(a) as being unpatentable over Diehl et al. in view of McClellan et al. Claim 7, however, includes all of the features of claim 5 from which it depends and is patentable over Diehl et al. for at least the same reasons as claim 5.

McClellan et al. is described above. McClellan et al. do not provide the deficiencies of Diehl et al. because it does not disclose or suggest that a smart card includes "a memory for holding upgraded software for delivery to the host device" or that the memory includes "a card information structure (CIS) for identifying the smart card as a code upgrade card," as required by claim 5.

The cited art taken singularly or in combination do not disclose or suggest the features of claim 5. Accordingly, claim 7, which includes all of the limitations of claim 5 from which it depends is also not subject to rejection under 35 U.S.C. §103(a) as being unpatentable over Diehl et al. in view of McClellan et al.

Claim 14 was rejected under 35 U.S.C. §103(a) as being unpatentable over McClellan et al. in view of Kidder et al. Claim 14, however, includes all of the features of claim 13 from which it depends and is patentable over McClellan et al. for at least the same reasons as claim 13.

Kidder et al. is described above. Kidder et al. do not provide the deficiencies of McClellan et al. because it does not disclose or suggest "verifying the software written to the memory using data stored on the smart card" or "if the written software can not be verified, restoring the original software from the read-only memory," as required by claim 13.

The cited art taken singularly or in combination do not disclose or suggest the features of claim 13. Accordingly, claim 14, which includes all of the limitations of claim 13 from which

it depends is also not subject to rejection under 35 U.S.C. §103(a) as being unpatentable over McClellan et al. in view of Kidder et al.

In view of the amendments and arguments set forth above, it is respectfully requested that the objection to the specification and the rejection of claims 1-14 be withdrawn.

Respectfully submitted,

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Patricia C. Boccella